Miller, Paul

From: Prince, Ruth <Prince.Ruth@epa.gov>
Sent: Wednesday, November 30, 2016 2:01 PM
To: Baggett, Steve
Cc: Aceto, Frank; Greene, Richard W. (DNREC); Miller, Paul; Schroder, David; Cargill IV, John G. (DNREC)
Subject: RE: AMTRAK ISS PILOT TEST SOPs

Thanks Steve!

Ruth Prince, PhD Toxicologist
3LC10
Land and Chemicals Division
U.S. Environmental Protection Agency Region III
1650 Arch St.
Philadelphia, PA 19103-2029
215-814-3118
prince.ruth@epa.gov

From: Baggett, Steve [mailto:Steve.Baggett@stantec.com]
Sent: Wednesday, November 30, 2016 12:13 PM
To: Prince, Ruth <Prince.Ruth@epa.gov>
Cc: Aceto, Frank <Frank.Aceto@stantec.com>; Greene, Richard W. (DNREC) <Richard.Greene@state.de.us>; Miller, Paul <Paul.Miller@stantec.com>; Schroder, David <David.Schroder@stantec.com>; Cargill IV, John G. (DNREC) <John.Cargill@state.de.us>
Subject: RE: AMTRAK ISS PILOT TEST SOPs

Hello Ruth:

Set forth below is restatement of each of your comments to the full set of SOPs prepared by Stantec for the ISS Pilot Testing program that were provided in your e-mail dated November 23, 2016 followed by the responses to each comment.

We plan on initiating the leachability testing by placing sample specimens in the bath water beginning on Monday December 5, 2016.

1. The TestAmerica SOP for method 1668 that is attached to the leach test SOP references the laboratory sample preparatory SOP for method 1668. Please provide this preparatory SOP as well.
   Response: TestAmerica's sample preparatory SOP is attached.

2. The leach test SOP indicates that 2 - 2.5 liter bottles will be submitted to the lab for the congener analysis. Clarify if this is the actual volume the laboratory requires for the analysis or if 2 - 1 liter bottles will be sufficient to achieve the sensitivity requirements for the method. This 5 liter sample may be difficult since HDPE buckets can't be used.

Response: We have spoken the TestAmerica and (1) 2.5 liter bottle will be sufficient without affecting the reporting limits.

3. The freeze-thaw test SOP only describes visual observations. It is recommended that the unconfined compressive strength test be conducted on these as well to see how they compare to those that did not undergo freeze-thaw cycles. In addition, photographic documentation should accompany the visual observations.
Response: We will provide photographic documentation of the freeze-thaw cycles. Although not considered to be representative of field conditions, Amtrak and APU agreed to perform the freeze-thaw testing as requested by the Agencies. In actuality, the stabilized sediments will be mixed in-situ, remain in the drainage features covered with a GCL liner and fill material and will not be subject to the extreme temperature variations that are to be simulated in the laboratory. Unconfined compressive strength testing of samples undergoing the laboratory freeze-thaw cycles is not considered to representative of field conditions.

This matter was discussed in the Revised Work Plan for In-Situ Stabilization Pilot Testing dated April 11, 2016. As was described, in actual full-scale application, the stabilized sediments will be capped and a vegetated cover will be placed. Temperature fluctuations below grade are minimal providing a level of protection from severe temperature variations. Further, the ratio of exposed surface areas to the overall mass of stabilized material is not properly balanced for freeze-thaw comparisons from bench-scale to field-scale. Proper engineering design will safeguard the stabilized material from frost or temperature extreme by covering with material of sufficient thickness to minimize concern for this issue. While bench testing of the amended sediments to evaluate seasonal and temporal changes is included in the work plan, Stantec will discuss the need for this testing with DNREC considering the full-scale application of the planned ISS remedy.

4. Field observations during field oversight did not indicate that the samples were prepared strictly in accordance with ASTM 1557-12 as indicated for hydraulic conductivity, freeze-thaw and unconfined compressive strength testing. They were prepared more like concrete cylinders. ASTM 1557 requires a specific mold, layering of soils and number of blows with a specific hammer. Please explain.
Response:
A modified ASTM D1557-12 was used to meet the project-specific parameters required for testing. Mold dimensions were modified based on the test specimen sizes required for future testing of the sample specimens. Procedures followed for individual test specimen preparation are provided below.

Freeze Thaw Test Specimen Preparation - Amended sediment material is placed in a mold. The amended sediment is pressed into the mold, with moderate effort, in separate "lifts" using a ceramic pestle (0.75-inch diameter x 7-inch length) in order to eliminate void spaces within the test specimen. A manual press is used to push the test specimens out of the mold (specimen size is 1.25-inches in diameter x 3.25-inches in length).

Unconfined Compressive Strength/Hydraulic Conductivity Test Specimen Preparation - Test specimens are prepared following Method B, listed in ASTM D1633. Amended sediment material is placed in molds. The amended sediment is pressed into the mold, with moderate effort, in separate "lifts" using a ceramic pestle (2.25-inch diameter x 7.5-inch length) in order to eliminate any void spaces within the test specimen. The test specimens are allowed to cure for a minimum

of 1 hour prior to removal from the mold (specimen size is approximately 3-inches in diameter x 6-inches in length).

The procedures followed were designed to provide uniform test specimens and eliminate potential void spaces during preparation. Test specimen preparation and curing in this manner best imitates the conditions present in the field, with the stabilized sediment mixed in-place and allowed to cure.

Please note that where any ISS Pilot Test SOP mentions the use of ASTM D1557-12, it should be considered "modified ASTM D1557-12 as described in Stantec's electronic mail dated November 30, 2016" (i.e. this e-mail).

Steve

Steve Baggett, PG
Principal Hydrogeologist
Stantec
1060 Andrew Drive Suite 140 West Chester PA 19380-5602
Phone: (610) 840-2538
Cell: (610) 704-1223
Fax: (610) 840-2501
Steve.Baggett@stantec.com

From: Prince, Ruth [mailto:Prince.Ruth@epa.gov]
Sent: Wednesday, November 23, 2016 4:52 PM
To: Baggett, Steve; Cargill IV, John G. (DNREC)
Cc: Aceto, Frank; Greene, Richard W. (DNREC)
Subject: RE: AMTRAK ISS PILOT TEST SOPs

Hi Steve – following are comments on the full set of SOPs, including the revised leach test SOP:

1. The TestAmerica SOP for method 1668 that is attached to the leach test SOP references the laboratory sample preparatory SOP for method 1668. Please provide this preparatory SOP as well.

2. The leach test SOP indicates that 2 - 2.5 liter bottles will be submitted to the lab for the congener analysis. Clarify if this is the actual volume the laboratory requires for the analysis or if 2 - 1 liter bottles will be sufficient to achieve the sensitivity requirements for the method. This 5 liter sample may be difficult since HDPE buckets can't be used.

3. The freeze-thaw test SOP only describes visual observations. It is recommended that the unconfined compressive strength test be conducted on these as well to see how they compare to those that did not undergo freeze-thaw cycles. In addition, photographic documentation should accompany the visual observations.

4. Field observations during field oversight did not indicate that the samples were prepared strictly in accordance with ASTM 1557-12 as indicated for hydraulic conductivity, freeze-thaw and unconfined compressive strength testing. They were prepared more like concrete cylinders. ASTM 1557 requires a specific mold, layering of soils and number of blows with a specific hammer. Please explain.

Ruth Prince, PhD Toxicologist
3LC10
Land and Chemicals Division
U.S. Environmental Protection Agency Region III
1650 Arch St.
Philadelphia, PA 19103-2029
215-814-3118
prince.ruth@epa.gov

From: Baggett, Steve [mailto:Steve.Baggett@stantec.com]
Sent: Monday, November 21, 2016 10:52 AM
To: Prince, Ruth <Prince.Ruth@epa.gov>; Cargill IV, John G. (DNREC) <John.Cargill@state.de.us>
Cc: Aceto, Frank <Frank.Aceto@stantec.com>; pizarro, luis <pizarro.luis@epa.gov>; Greene, Richard W. (DNREC) <Richard.Greene@state.de.us>
Subject: RE: AMTRAK ISS PILOT TEST SOPs

Ruth,

Due to the shortened holiday week, we will not be initiating testing this week. We are in communication with the lab and I will get back to you early next week on the timing.

Steve

From: Prince, Ruth [mailto:Prince.Ruth@epa.gov]
Sent: Friday, November 18, 2016 1:12 PM
To: Baggett, Steve; Cargill IV, John G. (DNREC)
Cc: Aceto, Frank; pizarro, luis; Greene, Richard W. (DNREC)
Subject: RE: AMTRAK ISS PILOT TEST SOPs

Thanks Steve, please advise the exact date next week that you will begin leaching.

Ruth Prince, PhD Toxicologist
3LC10
Land and Chemicals Division
U.S. Environmental Protection Agency Region III
1650 Arch St.
Philadelphia, PA 19103-2029
215-814-3118
prince.ruth@epa.gov

From: Baggett, Steve [mailto:Steve.Baggett@stantec.com]
Sent: Friday, November 18, 2016 1:02 PM
To: Cargill IV, John G. (DNREC) <John.Cargill@state.de.us>
Cc: Aceto, Frank <Frank.Aceto@stantec.com>; pizarro, luis <pizarro.luis@epa.gov>; Prince, Ruth <Prince.Ruth@epa.gov>; Greene, Richard W. (DNREC) <Richard.Greene@state.de.us>
Subject: RE: AMTRAK ISS PILOT TEST SOPs

John,

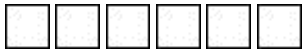
Provided on the FTP site that can be accessed below, is the revised SOP for the long-term leachability testing associated with the Amtrak ISS Pilot Test. This and the SOPs for the other tests that were previously submitted to the Agencies are to serve as Amendments to the ISS Pilot Test Work Plan.

This revised long-term leachability testing SOP includes Method 1668A congener analyses at each leachate water sampling interval and is intended to address the chain of comments (included those provided below) to the previously submitted long-term leachability testing SOP.

Please note that based on prior Agency comments/requests, we have not yet placed the sample specimens in the glass containers with the bath water. We plan on initiating the leachability testing by placing the specimens in the bath water as soon as next week.

Steve

Steve Baggett, PG
Principal Hydrogeologist
Stantec
1060 Andrew Drive Suite 140 West Chester PA 19380-5602
Phone: (610) 840-2538
Cell: (610) 704-1223
Fax: (610) 840-2501
Steve.Baggett@stantec.com



ot the intended recipient, please delete all copies and notify us immediately.